For CS Docket 98-120

FEDERAL COMMUNICATIONS COMMISSION
Roundtable on DTV Receiver Compatibility with Cable Television Service

STATEMENT OF
GEORGE HANOVER
CONSUMER ELECTRONICS MANUFACTURERS ASSOCIATION
MAY 20, 1999

The Consumer Electronics Manufacturers Association (CEMA) is grateful for the opportunity to participate in this Roundtable today, and we thank the Commission for its continued diligence and vision in creating a regulatory environment that will allow a successful and consumer-friendly transition to DTV.

CEMA, a sector of the Electronics Industries Alliance, is the trade association representing the consumer electronics industry. Our industry provides the American public with televisions, personal computers, digital versatile disk players, VCR's and accessories that connect and enhance these products.

CEMA and its members have worked for a decade to launch DTV. Indeed, CEMA members invented digital television here in the United States, and our industry has already invested in excess of a billion dollars in developing this technology.

CEMA co-founded WHD-TV, the Model HDTV Station that has been transmitting an HDTV signal for more than two years. CEMA has also been a major funder and proponent of the Advanced Television Test Center (ATTC), and has been an active member in the Advanced Television Systems Committee (ATSC).

After more than a decade of private research and development, we are pleased that digital television has been successfully launched from the laboratory into the consumer marketplace. The DTV receivers currently on sale comply with all elements of the broadcast standard adopted by the Commission, and function with any of the 18 formats prescribed by the ATSC standard.

To date, more than 20 manufacturers have introduced 12 brands and 17 models of integrated DTV sets. In addition, consumers also have available 12 brands and 13 models of DTV set-top boxes, and 17 brands and 59 models of DTV displays. Even now, additional products are making their way to the marketplace.

These DTV receivers are being stocked by retailers at more than 200 locations in more than 30 markets across the United States.

Initial DTV sales have been strong. More than 25,000 DTV sets have been sold after only seven months on the market. This includes 12,518 sets sold in the first quarter of 1999, traditionally not a strong quarter for TV receiver sales.

We expect sales to continue at a steady pace and expect increased momentum as more programming becomes available and more stations begin DTV broadcasts, more DTV set choices emerge, and set price competition picks up.

CEMA believes that the interests of consumers should guide the DTV transition. It is essential that all consumers, including those consumers who subscribe to cable, be able to choose their own path when upgrading to DTV. It is equally essential that no gatekeeper be allowed to deny consumers access to the full array of DTV services by restricting access to or degrading the quality of broadcasters' DTV signals, or by artificially limiting the functionality of the home equipment provided by consumer electronics manufacturers.

We're here today to discuss some of the remaining technical issues facing DTV. The range of industries represented here underscores the importance of coordinated, collaborative efforts to resolve these issues in a manner consistent with the interests of the public. Toward this end, CEMA has and will continue to partner with industry groups such as the OpenCable Initiative, the National Cable Television Association (NCTA), and the Copy Protection Technical Working Group (CPTWG) to resolve the remaining issues and ensure a consumer-friendly implementation of DTV.

The CE industry has developed a wide array of solutions for the linkage of DTV receivers to digital set-top boxes.

Nearly two-thirds of U.S. homes currently receive their TV programming through a cable system. For this reason, it is essential to ensure that cable operators provide the full benefits of digital and high-definition television (HDTV) to their subscribers. In the absence of digital cable-ready receivers, this will require technical solutions that link digital television sets to cable set-top boxes.

CEMA has developed four technical solutions for linking cable and other set-top boxes to DTV receivers:

1394 Interface (published as EIA-775): This standard creates a two-way digital bus architecture that allows digital devices such as DTV receivers, DVD players, and digital set-top boxes to be daisy-chained together.

RF Remodulator Interface (published as EIA-762): Using a one-way, point-to-point connection, this interface can translate a baseband signal, such as the cable industry's quadrature amplitude modulation (QAM) transmission language, into vestigial sideband modulation (VSB), the transmission standard accepted by the Advanced Television Systems Committee (ATSC).

Component Video Interface (published as EIA-770 series): The component video interface can link sets to cable and satellite boxes using a one-way, analog, high definition, point-to-point connection.

National Renewable Security Standard (NRSS) Interface (published as EIA-679): The NRSS interface works with digital receivers and provides smart-card and PCMCIA based access security to pay and subscription services offered over cable or satellite.

Finally, the ability of consumers to purchase digital cable set-top boxes at retail will be critically important in promoting consumer adoption of DTV. The Commission's recent ruling on reconsideration in the Navigation Devices proceeding (CS Docket 97-80) in requiring that cable operators provide separate security modules by July 2000, will speed the DTV transition by helping ensure that consumers will be able to purchase digital cable boxes that operate with their DTV receivers.

With the encouragement of the FCC, the cable and consumer electronics industries must do everything possible to promote the adoption of technical standards for cable-ready DTV receivers.

While the CE industry has devised a number of standards that will allow the connection of DTV receivers to cable set-top boxes, we remain committed to the goal of making the use of a set-top box to receive cable DTV video services a consumer option, not a requirement.

The availability of cable-ready DTV receivers, by reducing or eliminating the need for a cable set-top box, will make DTV interoperability with cable far more cost-effective for consumers, and will minimize the signal encryption and copy protection issues that complicate the development of standards for cable interfaces.

Towards this end, CEMA and NCTA are working together to define the conditions necessary for compatibility between cable systems and digital receivers, thus greatly reducing or eliminating the need for cable set-top boxes. Joint standards and guidelines will define cable/receiver specifications to support both basic and premium programming services.

The availability of cable-ready DTV receivers requires the development of standards that define the signal that will be presented to the DTV receiver. These standards must apply to all cable TV systems so that a digital cable-ready TV receiver can be used anywhere in the country. In addition, the receiver must incorporate various standards that allow it to interoperate or communicate with the cable system.

Cable compatibility is the mutual responsibility of set manufacturers and cable providers. Extensive work by the Digital Standards Subcommittee of the CEMA/NCTA Joint Engineering Committee has led to an understanding on eight areas where common standards are required to enable design and use of cable-ready digital television receivers. In some cases, the necessary standard applies to the cable TV system, in other cases it applies to the DTV receiver, and in some cases it applies to both.

The digital broadcast signal contains a number of data elements that work with consumers' equipment to provide services such as emergency broadcasting alerts, closed captioning, electronic program guides (EPG) and program rating or "V-chip" information using the A/65 PSIP standard that has been approved by the ATSC and Society of Cable Telecommunications Engineers (SCTE). Any alteration or deletion of data or program-related information must be expressly forbidden.

One of the most critical elements left for agreement is cable providers use of the A/65 PSIP standard. Only A/65 PSIP will ensure that DTV sets will receive the system information necessary to support the "V-Chip" content advisory system and the closed caption index descriptors, as well as an open EPG. The cable and consumer electronics industries also discussed access-controlled and cable subscription services.

The Commission must ensure that all DTV set consumers, including cable subscribers, receive broadcasters' entire DTV information in its pristine, unmodified state.

In order to ensure that 65 million U.S. cable-subscribing households can access digital television and its benefits, the FCC must enact consumer friendly regulations that ensure, at a minimum, that the digital signal delivered by cable to consumers be the entire signal, with all of its original attributes, including all necessary EPG data, regardless of the terms of cable carriage.

It also is essential operators retransmit broadcast DTV signals in their original format and without degradation of any kind. Consumers with new digital

receivers have paid for the privilege of viewing the digital signals at the highest quality their receiver provides, and must not be prevented from doing so by their cable provider.

With respect to cable systems obligations to carry local broadcast DTV signals, the Commission should implement a reasonable carriage requirement in consideration of increasing cable capacity and the pace of the digital rollout. Such a capacity-based requirement will be fair to consumers, broadcasters, and cable providers, as well as meeting the legal mandates set forth under Section 614 of the Communications Act.

The CE and content industries have devised a number of effective solutions for the protection of digital content.

The transition to digital television requires new solutions for protecting content. The consumer electronics, cable, motion picture, recording, and information technology industries are working to create consumer-friendly solutions that will defeat copy piracy while promoting compatibility between DTV receivers, digital VCRs and set-top boxes.

It is important to remember, however, that the lack of a common copy protection standard has not prevented content providers from offering a wide variety of digital and high-definition programming, such as feature films, major sporting events and broadcast prime-time programming.

Working in conjunction with the CPTWG, CEMA has solicited manufacturer input on copy protection solutions for each of the interfaces between DTV receivers and cable set-top boxes. In addition, CEMA's R 4.8 Committee has developed a list of suggested attributes for an effective copy protection system, and opened a dialogue with content providers on these characteristics.

Included in CEMA's list are critical pro-consumer characteristics such as signal non-degradation, low complexity, and the protection of consumer's established rights such as time-shifting and fair use. No matter what copy protection system or systems are eventually adopted by the various industries, it

is essential that the rights of consumers be protected. For example, free over-the-air broadcasts and basic cable service must not be subjected to any copy protection, and subscription pay television services should only be protected in a manner that prevents duplication of first generation copies.

Conversely, pay-per-view, video-on-demand and "near-video-on-demand" and pre-recorded media may be protected in a manner that prevents any copying, if the copyright owner so desires.

To date, the consumer electronics industry has developed a number of legitimate and effective approaches to protect against unauthorized copying on digital consumer electronics devices. One solution, referred to as the "5C" proposal, has been put forward by Hitachi, Intel, Matsushita, Sony and Toshiba. Another called the "Extended Conditional Access (XCA)" has been proposed by Thomson and Zenith. A third solution, known as the "Open Copy Protection Solution (OCPS)" is being advanced by Phillips.

In addition, manufacturers and content providers may have additional choices for copy protection as manufacturers continue to develop innovative technologies to protect content over a wide array of digital interfaces.

CEMA is confident that both today's and future DTV receivers will effectively be able to receive and display terrestrial digital broadcasts.

The consumer electronics industry has worked tirelessly and invested a significant amount of research and development to ensure that its receivers are fully capable of receiving and displaying over-the-air DTV transmissions. Put simply, it would be economically foolish for any consumer electronics manufacturer to introduce to the marketplace a DTV receiver that does not meet and exceed consumer expectations.

CEMA is aware that questions have been raised about the ability of DTV receivers to access DTV signals over-the-air within the FCC service areas. These parties have urged the FCC to take extreme actions ranging from the adoption of performance standards or even a wholesale switch from VSB to COFDM transmission. Such concerns are unfounded, and are largely based on

misinterpreted or anecdotal findings from a statistically insignificant number of field tests.

CEMA is committed to ensuring that retailers and the public have the information necessary to optimize the over-the-air reception capabilities of DTV receivers. As part of this effort, CEMA has developed a comprehensive antenna mapping program that will be available to more than 30,000 retailers across the United States. This mapping program divides every television viewing market into five color-coded regions, and will ensure, to the greatest degree possible, that every consumer is outfitted with an antenna appropriate to their location.

CEMA is confident that that DTV receivers will be capable of receiving and displaying off-air signals with excellent picture quality. Nevertheless, equipment manufacturers will be monitoring consumers' experiences as full-power digital stations go on the air and new DTV receivers are switched on in hundreds of locations across the country. Manufacturers' on-going technical improvement plans are the result of a fiercely competitive market that will ensure the rapid incorporation of the latest technical developments into consumer equipment.

Conclusion

As this forum demonstrates, cross-industry cooperation has resulted in substantial progress on the various technical issues facing DTV.

CEMA is convinced that in order for the transition to DTV to be successful, two things must happen: a growing amount of compelling programming must be available, and that programming must be accessible to all consumers, including cable viewers, in its original pristine and undegraded quality.

CEMA wishes to congratulate the various broadcasters, cable systems, satellite providers and manufacturers who have taken leadership positions to ensure that a sufficient amount of high-value content exists to fuel this unprecedented transition.

With the support of the FCC, our industry has been and will continue to work diligently to ensure that numerous options exist for cable viewers to obtain full performance from their home digital equipment. Meanwhile, in close partnership with other industry groups, CEMA will maintain its aggressive commitment to resolving DTV cable compatibility issues for the benefit of the American consumer.